

REVISED

**ACTUARIAL VALUATION REPORT
AS OF
JULY 1, 2003
FOR THE
RETIREMENT SYSTEM OF
SHELBY COUNTY, TENNESSEE**

PREPARED BY:

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November 2004

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HIGHLIGHTS

Shelby County Retirement System

Actuarial Valuation Report	July 1, 2003 Revised	July 1, 2002
Applicable Fiscal Year	July 1, 2004 to June 30, 2005	July 1, 2003 to June 30, 2004
County Contribution Requirement	\$9,645,830	\$17,836,157
Percent of Payroll	4.09%	7.22%

HIGHLIGHTS

Shelby County Retirement System

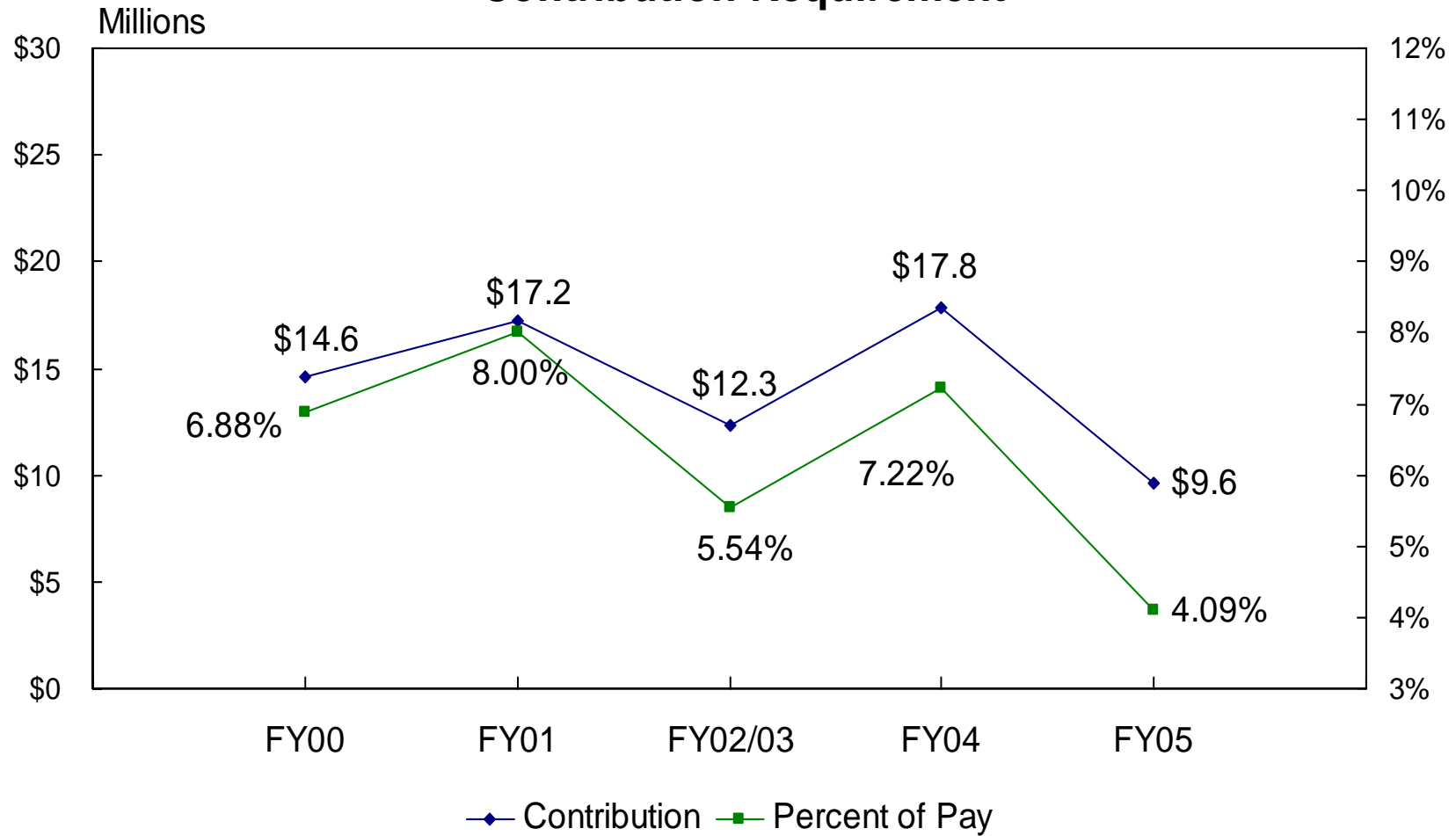
July 1, 2003

Changes From Prior Year

- ♦ Funding method changed from 103% funded ratio target to 100% funded ratio target
- ♦ Amortization of surplus over 20 years from July 1, 2003 rather than 10 years from July 1, 2001
- ♦ Asset method changed from 5-year smoothing method to 10-year smoothing method
- ♦ Salary increase assumption lowered from 6% per year to 4% per year
- ♦ Consumer Price Index (CPI) assumption lowered from 3.25% to 2.5% to estimate Plan A COLA increases

HIGHLIGHTS

Shelby County Retirement System Contribution Requirement



HIGHLIGHTS

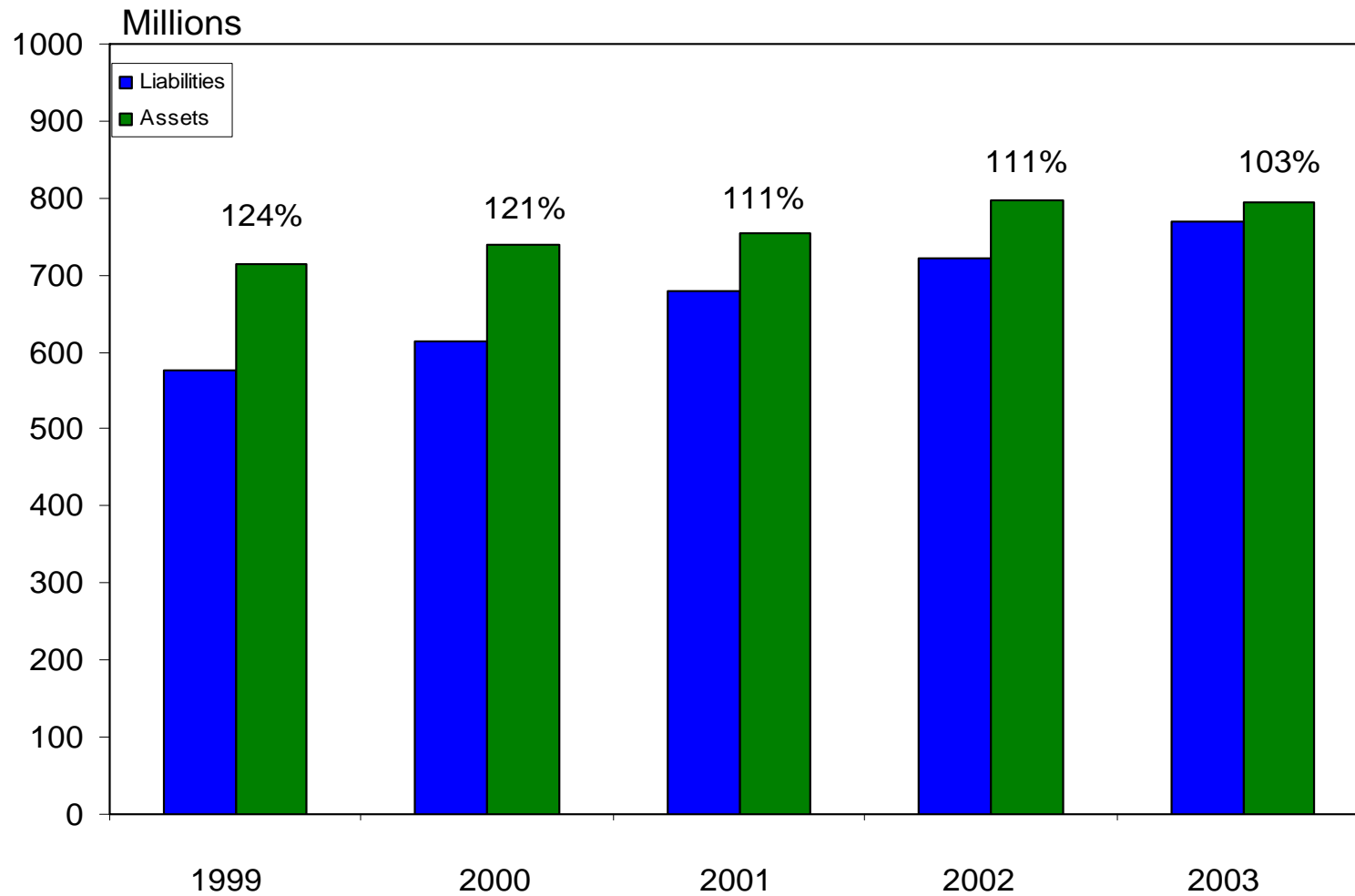
Shelby County Retirement System Accounting Information-Funding Progress

	<u>Current Year</u>	<u>Prior Year</u>
	June 30, 2003	June 30, 2002
Assets (5 year smoothing method)	\$794 M	\$797 M
Liabilities	\$770 M	\$721 M
Funded Status	103%	111%

Note: As of June 30, 2003, funding method funded status target is 103%. Information reported as of June 30, 2003 is prior to changes effective July 1, 2003.

HIGHLIGHTS

Shelby County Retirement System Accounting Information-Funded Status



Note: 2003 information reported prior to changes effective July 1, 2003.

HIGHLIGHTS

This revised report has been prepared for the Shelby County Retirement Board to present the results of a valuation of the Retirement System of Shelby County, Tennessee as of July 1, 2003. The contents reflect generally accepted actuarial principles. The report was revised after changes in methods and assumptions were approved by the Retirement Board.

Section 1 of this report contains the results of the 2003 actuarial valuation. Plan B has been closed such that no employees will be permitted to enter the plan in the future and consists of the terms and provisions of the System as constituted on December 1, 1978. The County ordinance which closed the old System also provided for the creation of a new Plan A.

The recommended contributions for Plan A and Plan B, together with the corresponding items from the immediately preceding valuation, are as follows:

<u>Plan</u>	<u>Contribution</u>			
	<u>July 1, 2003</u>		<u>July 1, 2002</u>	
	<u>Percent of Pay</u>	<u>Dollar Amount</u>	<u>Percent of Pay</u>	<u>Dollar Amount</u>
Shelby County Retirement System (Plan A and Plan B)	4.09%	\$9,645,830	7.22%	\$17,836,157

The County contribution strategy is to apply the results on a valuation date to the following fiscal year. The July 1, 2003 contribution amount of \$9,645,830 will be the required County contribution for the fiscal year July 1, 2004 to June 30, 2005.

The dollar amount is the County cost. The percent of pay is based on expected current year payroll. Employee contributions are made in addition to this amount.

There were no changes in plan provisions; however, there were changes in the asset method, funding method and assumptions from the prior year. These changes are described below.

The contributions listed above apply to service retirement benefits only. Medical benefits are studied separately and funded separately.

The County contribution requirement decreased from the prior year. Listed below is a chart comparing the costs as a percentage of payroll as well as an explanation of some of the factors which affected the contribution requirement.

HIGHLIGHTS (Continued)

	July 1, 2003	July 1, 2002
a. Normal Cost for Benefits Earned During the Year	8.66%	10.93%
b. Employee Contributions Expected	(0.89%)	(0.99%)
c. Interest on a. + b.	<u>0.67%</u>	<u>0.85%</u>
d. Ongoing Cost of Plan (a. + b. + c.)	8.44%	10.79%
e. Amortization of Surplus	(4.02%)	(3.30%)
f. Interest on e.	<u>(0.33%)</u>	<u>(0.27%)</u>
g. Total Contribution Requirement (d. + e. + f.)	4.09%	7.22%

Changes in Funding Method, Asset Method and Actuarial Assumptions

The County contribution requirement decreased from the prior year mainly due to several changes in actuarial assumptions and methods that were made effective July 1, 2003. The actuarial asset method was changed from a five year smoothing method to a ten year smoothing method. The effect of this change was to decrease the contribution requirement by \$1.0 million (0.4% decrease as a percent of payroll).

The funding method has been changed such that the goal is to maintain a funded status of 100% rather than 103%. In addition, the surplus of the actuarial asset value over the actuarial accrued liability will be amortized over a 20 year period beginning July 1, 2003. The surplus was previously being amortized over a 10 year period beginning July 1, 2001. The effect of this change was to decrease the contribution requirement by \$2.7 million (1.1% decrease as a percent of payroll).

The salary increase assumption was decreased from 6% to 4%. The Plan A cost of living assumption was decreased from 3.25% to 2.50%. The effect of these assumption changes was to decrease in the contribution requirement by \$13.0 million (5.3% decrease as a percent of payroll).

HIGHLIGHTS (Continued)

Asset Return Less Than Expected

The return on assets was less than the assumption of 8.25%. Prior to change in asset method, on an actuarial asset value basis, the investment return was approximately 2.7%, net of expenses. On a market value basis, the investment return was approximately 5.9%, net of expenses. The difference between the expected assets and actual actuarial asset value prior to changes was \$44M. Effective July 1, 2003, the asset method was changed from a five year smoothing method to a ten year smoothing method.

Contribution Strategy

Based on the July 1, 2002 valuation, the expected contribution for FY03 was \$18M. The actual contribution was \$12M from the July 1, 2001 actuarial report. The decision was made for budgeting purposes to delay the adoption of the July 1, 2002 report until the following year and apply this strategy in future years.

Decrease in Employee Contributions

The number of Plan B active participants declined, as well as the number of Public Safety Employees who contribute. Therefore, less of the total normal cost percentage is paid for by the employees.

Liabilities for Retirement Benefits

There was not a significant gain or loss due to the liabilities for retirement benefits. Overall salary increases were more than expected. Salary increases averaged 6.9%. Prior to changes, the expected salary increase was 6.0% per year due to annual adjustments, promotions, transfers, etc. The turnover was almost double what was expected. The turnover was approximately 11%. In the aggregate, the experience of the plan was close to what was expected in regard to plan liabilities.

Demographic Experience

The number of active participants decreased from 7,054 on July 1, 2002 to 6,516 on July 1, 2003. The payroll slightly decreased but is basically the same.

HIGHLIGHTS (Continued)

Accounting Information

Section 2 contains the Schedule of Funding Progress and Schedule of Employer Contributions which were reported as of June 30, 2003 for the financial statement of the Plan. The Plan is funded at 103% compared with 111% for the prior year. The asset performance lowered the funded ratio. As of June 30, 2003, the funding method is based on the 103% funding target.

Basis of Actuarial Valuation

Section 3 presents a summary of the plan provisions of Plan B and Plan A as well as a description of the actuarial assumptions and the actuarial funding method.

Supportive Information

Section 4 provides payout projections, a summary of valuation data, and a yearly comparison of valuation results.

In preparing this report, generally accepted actuarial methods and practices have been used. Reliance has been placed on participant information and financial information provided by the County. The actuarial assumptions used in this report were selected and approved by the Retirement Board on April 6, 2004.

The undersigned are available to provide further information or answer any questions with respect to this report.



November 1, 2004

Date signed

Karen W. Buckner, A.S.A., M.A.A.A.
Enrolled Actuary No. 02-3742



November 1, 2004

Date signed

Tracey T. Coulter, A.S.A., M.A.A.A.

SECTION 1

SUMMARY OF VALUATION RESULTS

This section sets forth the results of the actuarial valuation.

SECTION 1.1 shows the transactions of the plan's fund during the year, the composition of the fund and the development of the Actuarial Asset Value.

SECTION 1.2 shows the development of the County Contribution Requirement.

SECTION 1.1

The Assets at June 30, 2003

Allocation of Assets by Type

Based upon information furnished by the County, the value of assets as of June 30, 2003 is summarized as follows:

<u>Item</u>	<u>Market Value</u>
Investments	\$ 625,665,157
Cash and Equivalents	70,450,410
Accrued Investment Income	3,269,415
Investment Sales	19,079,232
Other Assets	0
Accounts Payable and Accrued Expenses	(833,627)
Investment Purchases Payable	<u>(3,462,921)</u>
Total	\$ 714,167,666
Actuarial Asset Value (before change in asset method)	\$ 794,201,990
Actuarial Asset Value (after change in asset method)	\$ 799,673,732

The method used to determine the actuarial asset value was changed, effective July 1, 2003, from a five-year smoothing method to a ten-year smoothing method.

Development of Actuarial Asset Value on July 1, 2003

The actuarial asset value was determined, as described in Section 3.3(E), using a 10-year smoothing method as follows:

Plan Year Ending June 30, 2003

1. Prior year market value of assets	\$ 697,587,106
2. Benefit payments	38,516,921
3. Contributions	14,588,264
4. Expected return (at 8.25%)	56,481,624
5. Expected market value of assets (1. – 2. + 3. + 4.)	730,140,073
6. Actual market value of assets	\$ 714,167,666
7. Gain/(Loss) (6. – 5.)	\$ (15,972,407)

Schedule of Investment Gains/(Losses)

6-30	Expected Market Value at 8.25%	Actual Market Value	Actual Return	Asset Gain or (Loss)	Gain or (Loss) Deferred Percent	Deferred Amount
2003	\$ 730,140,073	\$ 714,167,666	5.9%	\$ (15,972,407)	90%	\$ (14,375,166)
2002	789,211,191	697,587,106	(4.2%)	(91,624,085)	80%	(73,299,268)
2001	758,546,652	746,918,030	6.6%	(11,628,622)	70%	(8,140,035)
2000	750,047,425	711,894,934	2.3%	(38,152,491)	60%	(22,891,495)
1999	726,115,501	706,281,320	5.3%	(19,834,181)	50%	(9,917,091)
1998	629,702,692	684,672,890	17.7%	54,970,198	40%	21,988,079
1997	541,306,898	588,544,410	17.7%	47,237,512	30%	14,171,254
1996	474,310,413	501,210,000	14.4%	26,899,587	20%	5,379,917
1995	422,192,608	437,970,000	12.3%	15,777,392	10%	1,577,739
TOTAL						\$ (85,506,066)

Current Market Value (A)	Total Deferral of Gains/(Losses) (B)	Actuarial Asset Value (A) – (B)
\$714,167,666	(\$85,506,066)	\$799,673,732

Summary of Fund Operations

	<u>Market Value</u>	<u>Actuarial Asset Value</u> (before change in asset method)
<u>Fund as of June 30, 2002</u>	\$ 697,587,106	\$ 797,091,379
<u>Contributions</u>		
County	\$ 12,313,480	
Employee (Plan B)	573,500	
(Public Safety)	<u>1,701,284</u>	
Total	\$ 14,588,264	\$ 14,588,264
<u>Benefit Payments</u>		
Refunds and Cashouts	\$ (3,687,624)	
Retirement	<u>(34,829,297)</u>	
Total	\$ (38,516,921)	\$ (38,516,921)
<u>Administration Expenses</u>	\$ (1,105,588)	\$ (1,105,588)
<u>Investment Return</u> (Net of investment management expenses)	\$ 41,614,805	\$ 22,144,856
<u>Fund as of June 30, 2003</u>	<u>\$ 714,167,666</u>	<u>\$ 794,201,990</u>
<u>Estimated Rate of Return</u> <u>(Net of Expenses)</u>	5.9%	2.7%

SECTION 1.2

Development of County Contribution Requirement at July 1, 2003

1.	Actuarial Accrued Liability (AAL)	
a.	Plan B Actives and Transfers	\$ 36,624,526
b.	Plan B Retireds, Beneficiaries, Disableds and Deferreds	<u>237,809,900</u>
c.	Total Plan B = (a.) + (b.)	\$ 274,434,426
2.	Actuarial Accrued Liability (AAL)	
a.	Plan A Actives and Transfers	321,255,933
b.	Plan A Retireds, Beneficiaries, Disableds and Deferreds	<u>105,011,716</u>
c.	Total Plan A= (a.) + (b.)	\$ 426,267,649
3.	Total AAL (1.) + (2.)	\$ 700,702,075
4.	Funding Target = 100% x AAL	\$ 700,702,075
5.	Actuarial Asset Value	\$ 799,673,732
6.	(Surplus) or Deficit = (4.) - (5.)	\$ (98,971,657)
7.	Amortization over 20 Years of (Surplus) or Deficit	\$ (9,486,136)
8.	Normal Cost x 100%	
a.	Plan B	\$ 873,226
b.	Plan A (Public Safety)	5,361,220
c.	Plan A (Non-Public Safety)	<u>14,205,728</u>
d.	Total = (a.) + (b.) + (c.)	\$ 20,440,174
9.	Expected Employee Contributions	
a.	Public Safety Employees	\$ (1,638,200)
b.	Plan B Participants	<u>(479,099)</u>
c.	Total (a.)+(b.)	\$ (2,117,299)

10.	Interest at 8.25% on (7.) + (8.) + (9.)	\$	809,091
11.	Total County Contribution (7.) + (8.) + (9.) + (10.)	\$	9,645,830
12.	Expected FY04 Active Payroll (under expected retirement age)		
	a. Plan B	\$	5,988,740
	b. Plan A (Public Safety)		61,818,886
	c. Plan A (Non-Public Safety)		<u>168,217,103</u>
	d. Total	\$	236,024,729
13.	County Contribution Rate		
	a. Normal Cost		8.66%
	b. Employee Contributions		(.89)
	c. Interest on (a.) and (b.)		<u>.67</u>
	d. Ongoing Cost = (a.) + (b.) + (c.)		8.44%
	e. Amortization of Surplus over 20 years		(4.02)
	f. Interest on (e.)		<u>(.33)</u>
	g. Total = (d.) + (e.) + (f.)		4.09%

SECTION 2

ACCOUNTING INFORMATION

Schedule of Funding Progress

<u>Year Ended June 30</u>	<u>Actuarial Value of Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Funded Ratio</u>
2003	\$ 794,201,990	\$ 769,753,615	103%
2002	\$ 797,091,379	\$ 720,839,196	111%
2001	\$ 753,767,893	\$ 679,275,060	111%
2000	\$ 740,062,567	\$ 613,838,116	121%
1999	\$ 715,457,284	\$ 577,497,386	124%

Actuarial Accrued Liability is based on the Projected Unit Credit Service Pro-Rate Funding Method. The liability is as of June 30 each year prior to changes in assumptions, methods and plan provisions which may be effective July 1. The actuarial value of assets is prior to a change in method effective July 1, 2003.

Schedule of Employer Contributions

<u>Year Ended June 30</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>
2003	\$ 12,313,480	100%
2002	\$ 12,313,480	100%
2001	\$ 17,201,861	100%
2000	\$ 14,611,646	100%
1999	\$ 12,030,550	100%

SECTION 3

BASIS OF ACTUARIAL VALUATION

In this section, the basis of the actuarial valuation is presented and described. This information -- the provisions of the plans and census of participants -- is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund, the number of participants who will remain to retirement, their ages at retirement and expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which has been adopted to guide the sponsor in funding the plan in a reasonable and acceptable manner, are described in this section.

SECTION 3.1

Summary of Plan B Provisions

Plan

Plan B of Retirement System of Shelby County, Tennessee.

Effective Date

September 1, 1949, closed effective December 1, 1978.

Eligibility

All salaried employees hired prior to December 1, 1978 were eligible at date of employment and had to apply for membership as a condition of such employment. "Employee" means any person employed on a regular full-time basis, excluding officials or employees of the Board of Education of Shelby County.

Entry in the System was optional for individuals employed on a per diem basis.

Employees not able to complete the required number of years of service prior to mandatory retirement age could not join the plan.

Normal Retirement

Employees may retire under any of the following sets of criteria as applicable:

- (a) Completion of 25 years of service;
- (b) Completion of 10 years of service and attainment of age 60;
- (c) If the employee is a deputy sheriff, as that term may apply, completion of 10 years of credited service and attainment of age 55;
- (d) Completion of 15 years of service if participant's job is abolished or participant is not re-elected or re-appointed at the time of appointment or election.

The normal retirement benefit, 1/12 of which is payable monthly for life, is determined as 2.7% of average compensation multiplied by years of credited service not in excess of 25 plus 1% of average compensation multiplied by years of service greater than 25 but less than 35, with a maximum benefit of 77.5% of average compensation. The minimum pension is \$300.00 per month unless the employee is jointly employed by the City and County in which case the

minimum is \$150 per month. Benefits continue to the surviving spouse upon the death of the participant.

"Compensation" means base salary exclusive of overtime pay or other final benefits.

Listed below is a summary of the benefits for different years of service:

<u>Years of Service</u>	<u>Benefit Accrual Per Year</u>	<u>Cumulative Percent of Final Average Pay</u>
1-7	2.7%	18.9%
8-13	2.7	35.1
14-20	2.7	54.0
21-25	2.7	67.5
26-30	1.0	72.5
31-35	1.0	77.5
35 and above	0.0	77.5

If a participant had 10 years of service on 10/1/77, "average" means the greater of the average monthly Compensation for the five consecutive years of County Service during which compensation was the highest or average monthly compensation for the twelve (12) months preceding the date of retirement. If the participant did not have 10 years of service on 10/1/77, "average" would mean the average rate for the 36 consecutive months during which the employee received his highest compensation.

Cost-of-living adjustments are granted on an ad-hoc basis as determined annually by the Board of Commissioners.

Disability Retirement

If a participant becomes totally and permanently disabled, as defined in the plan, after 5 years of service, if not in line-of-duty, or after becoming employed, if in line-of-duty, a disability benefit will be paid.

If disability does not occur in line-of-duty, the benefit will be determined as for normal retirement provided that the benefit will not be greater than 57.5% of final average compensation or 90% of the service retirement allowance which would have been received at the minimum age of service retirement. If disability occurs in line-of-duty, the benefit will be 50% of final average compensation.

Death Benefit

If a participant dies before completing 10 years of service and does not die in line-of-duty, his beneficiary will receive a refund of the participant's contributions, without interest; if death occurs after 10 years of service or after retirement the member's eligible spouse, as defined in the plan, will receive the participant's accrued benefit until remarriage, unless such remarriage occurs after age 65, or death. If the member's spouse does not survive him or if the spouse dies or remarries prior to age 65, the benefit will be paid to the child or divided among the children of the participant until they reach age 18. If the child is handicapped, payments continue for the lifetime of the child.

If death occurs in line-of-duty, a benefit of 50% of the participant's final average earnings will be paid to the spouse, until death or remarriage or to minor children under 18, if no spouse is living, or to the father and/or mother who was supported by the deceased member at the time of his death.

Optional Retirement Benefits

No optional forms of benefit are permitted by the plan.

Termination of Employment

If employment is terminated prior to the completion of ten years of credited service, a refund of the participant's contributions, without interest, is payable.

If employment is terminated after 10 years of service, a vested deferred benefit equal to the participant's accrued benefit at date of termination is paid commencing at age 60. Benefits are payable to the surviving spouse after age 60 of the participant. The participant may elect to withdraw his contributions, without interest, instead of receiving the deferred monthly benefit at age 60.

Contribution

Each year the County contributes an amount determined actuarially to sustain the plan on an actuarially determined funding basis. Employees contribute 8% of earnings to the retirement plan for the first 35 years. After 35 years, employees contribute 8% of any increases in pay.

SECTION 3.2

Summary of Plan A Provisions

Plan

Plan A of Retirement System of Shelby County, Tennessee.

Effective Date

December 1, 1978

Eligibility

All employees hired after December 1, 1978 including all full-time, part-time and elected employees, and members of Plan B electing to transfer to Plan A and employees of all joint City/County agencies administered by Shelby County participate. CETA employees, Board of Education employees, employees electing Social Security coverage, and Joint City/County agencies not administered by Shelby County cannot participate.

Once a person becomes a participant, he will continue to be a participant for as long as he is an employee.

Normal Retirement

Employees may retire after attainment of age 65 regardless of their length of credited service. The benefit is payable for the lifetime of the participant. The benefit amount is equal to a percentage from Table A, which is included in the Appendix to the plan, multiplied by final average earnings. Final average earnings is the average over three highest consecutive years of compensation. Earnings means total cash compensation exclusive of overtime and all other extra compensation paid or provided by Shelby County to the employee.

Listed below is a summary of Table A with retirement benefits for different years of service:

<u>Years of Service</u>	<u>Benefit Accrual Per Year</u>	<u>Cumulative Percent of Final Average Pay</u>
1 - 7	1.5%	10.5%
8 - 13	2.0	22.5
14 - 20	2.5	40.0
21 - 25	3.0	55.0
26 - 30	3.0	70.0
31 - 35	2.5	82.5
36 - 38	2.5	90.0
39 and above	0.0	90.0

Early Retirement

If an employee retires after attainment of age 55 and completion of 7.5 years of credited service, then the employee will be eligible for an early retirement benefit. The employee may elect an immediate benefit equal to the benefit rate from Table B, included as part of the plan, multiplied by final average earnings as of the date of retirement. Alternatively, an employee may elect a deferred benefit beginning at age 65 equal to the benefit rates from Table A, based on past service to date of retirement, multiplied by final average earnings at date of retirement.

The reduction for an immediate benefit beginning on or after age 55 is 2.5% for each year less than age 65. At age 55, the reduction is 25% of the Table A benefit to determine the Table B benefit.

Public Safety Employees

For the public safety employees hired prior to July 1, 2000 who elect the 25 year-and-out program, there is no reduction for early retirement if retirement occurs at 25 years of service. Any retirement after 25 years of service will have a minimum benefit of 55% of final average pay. Public Safety Employees contribute 2.65% of pay, subject to future changes in the rate to reflect actual experience. All public safety employees hired on or after July 1, 2000 will automatically participate in the program if they can satisfy the retirement eligibility prior to attaining age 63.

Disability Retirement

- (a) For employees hired prior to December 1, 1988 unless coverage elected as described in (b) below and who became disabled prior to January 1, 2002:

If a participant becomes totally and permanently disabled, as defined in the plan, after five years of service a disability benefit will be paid. If an employee becomes disabled while engaging in hazardous duty, which must require an employee to experience great danger as a duty of his job, then an employee will receive disability benefits regardless of length of service.

The benefit amount will be equal to 60% of the participant's final average earnings plus 10% of final average earnings if dependent children exist. The benefit will continue to age 65 (or for five years, but not beyond age 70, if disability occurs after age 60) and is then recomputed as a normal retirement benefit with credited service including time while disabled.

- (b) For all employees hired on or after December 1, 1988 and for those employees hired prior to December 1, 1988 who elect such coverage and became disabled prior to January 1, 2002:

If a participant becomes totally and permanently disabled, as defined in the plan, a disability benefit will be paid. If an employee becomes disabled while engaging in hazardous duty, or in line-of-duty, which must require an employee to experience great danger as a duty of his job, then an employee will receive disability benefits regardless of length of service.

The ordinary disability amount will be equal to a percent based on years of service of the participant's final average earnings plus 10% of final average earnings if dependent children exist. The benefit will continue to age 65 (or for five years, but not beyond age 70, if disability occurs after age 60) and is then recomputed as a normal retirement benefit with credited service including time while disabled.

<u>Years of Service</u>	<u>Percent of Final Average Earnings</u>
5 - 9 years	30%
10 - 14 years	35%
15 - 19 years	40%
20 - 24 years	45%
25 or more years	50%

The hazardous duty or line-of-duty benefit amount will be equal to 60% of the participant's final average earnings plus 10% of final average earnings if dependent children exist. The benefit will continue to age 65 (or for five years, but not beyond age 70, if disability occurs after age 60) and is then recomputed as a normal retirement benefit with credited service including time while disabled.

For (a) and (b) above, the hazardous duty and line-of-duty benefits will continue to be provided for disabilities within one month after date of employment.

Death Benefit

(a) Upon death of a participant before termination, after engaging in hazardous duty or line-of-duty (if hired on or after December 1, 1988), or after completing 7.5 years of credited service, or if death occurs while participant is receiving a disability pension.

(i) For dependent children,

52.5% of participant's final average earnings payable for as long as there are dependent children.

If the employee was hired on or after December 1, 1988 or if the employee was hired prior to December 1, 1988 but elected such coverage and is receiving a disability benefit at his death, dependent children get all of the disability benefit paid to the employee (less the 10% additional benefit).

(ii) For spouse under age 65

85% of dependent children benefit after no longer dependent children, or
45% of participant's final average earnings if never any dependent children.

Benefit is payable for 24 months, but not beyond spouse's age 65 or remarriage. If the employee had completed 15 years of service, the spouse is entitled to a permanent survivor pension equal to 75% of participant's pension computed as if he had retired or terminated immediately before death.

If the employee was hired on or after December 1, 1988 or if the employee was hired prior to December 1, 1988 but elected such coverage and is receiving a disability benefit at his death, when no dependent children, spouse gets 75% of the amount paid to the employee for up to 24 months.

(b) Death of participant after termination with vested pension

(i) If participant was entitled to receive a deferred vested pension at time of death, survivor benefit to spouse is 75% of participant's monthly benefit commencing at spouse's age 65. A reduced immediate benefit is available.

(ii) Benefits are for dependent children only as in (a)(i) above.

(c) Survivor benefit for spouse who is over age 65

(i) If participant was receiving a normal, early or vested pension at time of death, survivor benefit to spouse over age 65 is 75% of participant's pension. A reduced immediate benefit is available.

(ii) If participant was still an employee at time of death, survivor benefit to spouse over age 65 is 75% of participant's pension computed as if he had retired immediately before death. A reduced immediate benefit is available.

(iii) If participant was receiving a disability pension at time of death, survivor benefit to spouse over age 65 is computed as 75% of the benefit participant would have received upon retirement at age 65. Credited service includes time while participant is disabled. A reduced immediate benefit is available.

Termination of Employment

If employment is terminated prior to completion of 7.5 years of credited service, no benefit is payable. If the employee terminates employment after completion of 7.5 years of service, a benefit will be payable at age 65 equal to the benefit rate from Table C multiplied by final average earnings on the date of termination. Alternatively, the participant may elect a vested early benefit payable at age 55 which is actuarially equivalent to the amount payable in accordance with the above calculation.

Optional Retirement Benefits

An actuarially equivalent optional benefit may be elected in lieu of the pension payable to the participant, other than for disability and survivor benefits to a spouse after attaining age 65. Options include:

Joint and Survivor Option

Modified Joint and Survivor Option

Special Form Option

Lump Sum Option up to \$20,000 is the automatic form of payment. If the lump sum value is greater than \$20,000 but less than \$35,000, the lump sum option may be chosen. The interest rate for these calculations on or after April 15, 2002 is 7.5%, which is the funding rate for the plan year less 75 basis points. The mortality table assumption is the 1983 Group Annuity Mortality Table blended 50/50 for male/female life expectancy.

Cost-of-Living Adjustments in Benefits

A maximum of 4% annual adjustment based on CPI changes applies to the following benefits:

- (a) Retired participants after age 65
- (b) Disabled participants
- (c) Survivor benefits for dependent children
- (d) Survivor benefits for spouses under and over age 65

In no event, however, will the Plan A benefits exceed 100% of final average pay except as follows for an employee who retires with 40 or more years of service:

<u>Monthly Retirement Benefit</u>	<u>Maximum Benefit</u>
Less than \$1,200	124%
\$1,200 to \$2,800	115%
More than \$2,800	106%

Rehabilitation Allowances

A disabled participant or surviving spouse may receive a tuition reimbursement for training and rehabilitation up to \$1,000 for no more than two years.

Contributions

Employees other than public safety employees do not contribute to the plan. Some public safety employees hired prior to July 1, 2000 and all public safety employees hired after July 1, 2000 contribute 2.65% of pay if they can earn a public safety retirement benefit prior to attaining age 63. Each year the County contributes an amount necessary to maintain the plan on an actuarially determined contribution schedule.

Special Provisions

Employees who elected to transfer from Plan B to Plan A are assured of a minimum benefit equal to the actuarially equivalent monthly benefit of the lump sum value of employee contributions transferred to Plan A.

Plan B Med employees mandated to Social Security were given the option of transferring to Plan A without a refund of employee contributions. If the option was elected, an additional benefit may be provided from Plan A equal to the difference between what the participant would have received from Plan B and what he actually receives from Plan B (frozen at July 1, 1985) and Plan A (earned after July 1, 1985).

SECTION 3.3

Actuarial Basis

A. Basis of Valuation

An actuarial valuation is a mathematical device for measuring the liabilities under a pension plan and for determining a schedule of contributions to finance the plan. The actual cost of a pension plan cannot be determined until its entire experience is complete; however, actuarial techniques determine a pattern of contributions which will finance the liabilities in an orderly fashion. Assumptions are made regarding future experience in regard to the rate of investment return on invested funds, the probability of death, disability and other termination from employment, the rate of future salary increases, etc. The set of actuarial assumptions and the valuation method become the basis for making a valuation of the pension plan. The degree of conservatism to be reflected in the actuarial assumptions is a matter of judgment of the Retirement Board, who is charged with the responsibility of selecting assumptions.

An actuarial valuation does not determine ultimate pension plan costs; only the actual experience in regard to the many variables involved will establish the true cost of the plan. An actuarial valuation, however, reveals the year to year incidence of contributions necessary to soundly fund pension benefits. The incidence of contributions, or "funding schedule," may be increasing, level or decreasing from year to year as a percent of payroll, depending on the actuarial funding method utilized. Annual actuarial valuations are made to adjust contributions gradually as actual experience emerges. Changes in the assumptions may be required if the experience consistently departs from the valuation assumptions.

B. Description of Valuation Method

Liabilities and contributions shown in this report are computed using the Projected Unit Credit funding method prorated over total service. The current accrued benefit is a minimum accrued liability.

The objective under this method is to fund each participant's benefits under the Plan as they would accrue, taking into consideration future salary increases. Thus, the total pension, to which each participant is expected to become entitled, is broken down into units, each associated with a year of past or future credited service. When this method is introduced, there will be an initial liability for benefits credited for service prior to that date, and to the extent that the liability is not covered by assets of the Plan, there is an unfunded liability to be funded over a chosen period in accordance with an amortization schedule.

The valuation method for the County is based on a funded status target of 100%. If the funded status is more than or less than 100%, the surplus or deficit is amortized over a twenty-year period beginning July 1, 2003.

A description of the calculation follows:

An individual's **accrued benefit** for valuation purposes related to a particular separation date is the accrued benefit described under the Plan projected to the expected separation date, multiplied by the ratio of credited service as of the valuation date over credited service as of the expected separation date.

The **benefit** deemed to accrue for an individual during a plan year is the excess of the accrued benefit for valuation purposes at the end of the plan year over the accrued benefit for valuation purposes at the beginning of the plan year. Both accrued benefits are calculated from the same projections to the various anticipated separation dates.

An individual's **accrued liability** is the present value of the accrued benefit for valuation purposes at the beginning of the plan year, and the normal cost is the present value of the benefit deemed to accrue in the plan year. If multidecrements are used, the accrued liability and the normal cost for an individual are the sum of the component accrued liabilities and normal costs associated with the various anticipated separation dates. Such accrued liabilities and normal costs reflect the accrued benefits as modified to obtain the benefits payable on those dates and the probability of the individual separating on those dates.

The Plan's **normal cost** is the sum of the individual normal costs, and the Plan's **accrued liability** is the sum of the accrued liabilities for all participants under the Plan.

Change from Previous Valuation

The funded status target changed from 103% to 100%. The period over which the surplus or deficit is amortized changed from ten years beginning July 1, 2001 to twenty years beginning July 1, 2003.

C. Actuarial Assumptions for Valuation of Liabilities of Plan B

1. Assumptions Concerning Future Events

		<u>Sample Rates</u> (Rates are per 1,000 lives)			
Age:		<u>20</u>	<u>35</u>	<u>50</u>	<u>60</u>
Mortality Rate					
Before and after retirement: 1984 Unisex Pension Mortality Table	Male:	1.267	1.513	6.196	15.509
	Female:	1.437	1.141	3.769	9.875
Disability Rate					
Table of Values consistent with the scale at right	Male:	1.930	1.930	9.680	22.510
	Female:	2.290	2.290	9.130	14.230
Withdrawal Rate					
Table of Values consistent with the scale at right	Male:	179.500	58.800	100.00	200.00
	Female:	579.600	163.200	100.00	200.00
Rate of Death Among Disabled Lives					
Table of Values consistent with the scale at right	Male:	1.790	2.510	8.320	20.340
	Female:	1.460	2.130	5.350	13.000

Salary Scale

Salaries are assumed to increase at 4.0% per year to retirement. (Inflation is projected at 2.5% per year, and merit and seniority increases are projected to equal 1.5% per year.)

Rate of Retirement

Assume early retirements occur according to withdrawal rate table;
others at ultimate retirement age.

Interest Rate

8.25% per annum

Funding

Commences at date of eligibility

Expenses

Funding is for net costs only

Ultimate Retirement Age

Age 65 for General Employees, Age 60 for Deputy Sheriffs

New Entrants

None funded for

Probability of Rehire for Terminated or Laidoff

Not funded for

Type of Death and Disability

Seventy-five percent of deaths and disabilities are assumed to be line-of-duty for employees classified as deputy sheriffs. Ten percent of deaths and disabilities are assumed to be line-of-duty for all employees not classified as deputy sheriffs.

Incidence of Involuntary Retirement

Five percent of retirements are assumed to be involuntary.

2. Assumptions Made with Respect to Employee Data**Spouse Frequency and Ages**

Actual married status, actual age of spouse for inactive group when provided. For active group, 65% married and three years average age difference between employee and spouse.

Salary Used in Valuation

Projected annual pay based on six months of pay provided by the County.

3. Changes in Assumptions Since Last Valuation

The salary scale assumption changed from 6% to 4%.

D. Actuarial Assumptions for Valuation of Liabilities of Plan A

1. Assumptions Concerning Future Events

		Sample Rates			
		(Rates are per 1,000 lives)			
Age:		<u>20</u>	<u>35</u>	<u>50</u>	<u>60</u>
Mortality Rate					
Before and after retirement:	Male:	0.377	0.860	3.909	9.158
1983 Group Annuity	Female:	0.189	0.476	1.647	4.241
Mortality Table					

Disability Rate

Table of Values consistent	Male:	1.700	1.800	2.900	5.900
with the scale at right	Female:	1.275	1.350	2.175	4.425

Withdrawal Rate

Table of Values consistent					
with the scale at right	All:	120.0	70.0	40.0	50.0

Rate of Death Among Disabled Lives

Table of Values consistent	Male:	24.583	34.184	48.004	58.118
with the scale at right	Female:	9.650	17.654	27.961	37.993

Salary Scale

Salaries are assumed to increase at 4.0% per year to retirement. (Inflation is projected at 2.5%, and merit and seniority increases are projected to equal 1.5% per year.)

Rate of Retirement

<u>Age</u>	<u>Rate of Retirement</u>
55 - 59	3%
60 - 63	5%
64 - 66	25%
67	100%

All Public Safety Employees who participate in the 25-and-out plan are assumed to retire at 25 years of service.

Interest Rate

8.25% per annum

Funding

Commences at date of eligibility for plan participation

Cost-of-Living Adjustment

2.50% per annum, compounded

Expenses

Funding is for net costs only

New Entrants

None funded for

Probability of Rehire for Terminated or Laidoff

Not funded for

Type of Death and Disability

Ninety percent of deaths and disabilities are assumed to be non-hazardous duty.

2. Assumptions Made with Respect to Employee Data**Spouse Frequency and Ages**

Actual married status, actual age of spouse for inactive participants. For active group, 65% married and three years average age difference between employee and spouse.

Salary Used in Valuation

Projected annual pay based on six months of pay provided by the County. For employees hired within one year of the valuation date, annualized pay based on monthly rate.

3. Changes in Assumptions Since Last Valuation

The salary scale assumption changed from 6% to 4%. The cost-of-living adjustment assumption changed from 3.25% to 2.50%.

E. Actuarial Funding Method for Valuation of Assets

Assets are carried for valuation purposes at an Actuarial Asset Value which uses a method that smoothes the market value of assets over a ten-year period.

In each plan year, a gain or loss is determined by calculating the difference between the expected value of the assets for the year and the market value of assets at the valuation date. The expected value of assets for the year is the prior year's market value of assets brought forward with interest to the current valuation date, plus actual contributions minus benefit payments, all adjusted for interest to the current valuation date. If the expected value is less than market value, the difference is a gain. Conversely, if the expected value exceeds market value, the difference is a loss.

These gains or losses are recognized at a rate of 10% per year. The unrecognized portion of each year's gain or loss is subtracted from the current year value to obtain the actuarial value of assets.

Change in Method Since Last Valuation

The method used to calculate the Actuarial Asset Value changed from a five year smoothing method to a ten year smoothing method.

SECTION 4

SUPPORTIVE INFORMATION

SECTION 4.1

Payout Projections

RETIREMENT PLAN B AND PLAN A

<u>Year</u>	<u>Total Actives</u>	<u>Total Inactives</u>	<u>Total</u>
2003-04	\$ 5,816,981	\$ 35,637,613	\$ 41,454,594
2004-05	7,871,780	35,187,773	43,059,553
2005-06	9,362,531	34,680,309	44,042,840
2006-07	11,577,046	34,104,334	45,681,380
2007-08	14,173,993	33,490,938	47,664,931
2008-09	16,401,912	32,833,420	49,235,332
2009-10	18,668,806	32,127,118	50,795,924
2010-11	21,507,844	31,387,314	52,895,158
2011-12	24,454,960	30,652,311	55,107,271
2012-13	28,849,211	29,902,003	58,751,214
2013-14	33,433,564	29,117,085	62,550,649
2014-15	39,541,301	28,330,356	67,871,657
2015-16	44,958,953	27,536,012	72,494,965
2016-17	51,866,937	26,734,289	78,601,226

SECTION 4.2

Summary of Valuation Data

	<u>Plan B</u>	<u>Plan A</u>	<u>Total</u>
<u>ACTIVE PARTICIPANTS</u>			
Number	153	6,363	6,516
Number Vested	153	3,443	3,596
Number Transferred to City	0	204	204
Total Annual Payroll FY03			
County Payroll	\$ 7,225,462	\$ 229,971,731	\$ 237,197,193
Avg. Salary	\$ 47,225	\$ 37,339	\$ 37,579
City Payroll	N/A	\$ 9,539,983	\$ 9,539,983
Avg. Salary	N/A	\$ 46,765	\$ 46,765
Avg. Age	56.9	43.1	43.4
Avg. Service	29.4	10.5	10.9
Avg. Remaining Service	6.6	12.4	12.3
Public Safety Employees	N/A	1,599	1,599
PSE Payroll	N/A	\$ 64,325,035	\$ 64,325,035
Avg. Pay	N/A	\$ 40,228	\$ 40,228

SECTION 4.2

Summary of Valuation Data (*continued*)

	<u>Plan B</u>	<u>Plan A</u>	<u>Total</u>
<u>INACTIVE PARTICIPANTS</u>			
Participants Receiving Benefits			
RETIRED			
Number	1,161	547	1,708
Total Monthly Benefits	\$ 1,821,642	\$ 378,071	\$ 2,199,713
Avg. Monthly Benefits	\$ 1,569	\$ 691	\$ 1,288
DISABLED			
Number	56	176	232
Total Monthly Benefits	\$ 52,017	\$ 265,253	\$ 317,270
Avg. Monthly Benefits	\$ 929	\$ 1,507	\$ 1,368
BENEFICIARIES			
Number	352	129	481
Total Monthly Benefits	\$ 352,674	\$ 105,924	\$ 458,598
Avg. Monthly Benefits	\$ 1,002	\$ 821	\$ 953
TOTAL			
Number	1,569	852	2,421
Total Monthly Benefits	\$ 2,226,333	\$ 749,248	\$ 2,975,581
Avg. Monthly Benefits	\$ 1,419	\$ 879	\$ 1,229
Participants with Deferred Benefits			
VESTED TERMINATED			
Number	11	302	313
Total Monthly Benefits	\$ 11,891	\$ 187,991	\$ 199,882
Avg. Monthly Benefits	\$ 1,081	\$ 622	\$ 639
DISABLED			
Number	0	31	31
Total Monthly Benefits	\$ 0	\$ 27,497	\$ 27,497
Avg. Monthly Benefits	\$ 0	\$ 887	\$ 887
BENEFICIARIES			
Number	0	6	6
Total Monthly Benefits	\$ 0	\$ 4,699	\$ 4,699
Avg. Monthly Benefits	\$ 0	\$ 783	\$ 783
TOTAL			
Number	11	339	350
Total Monthly Benefits	\$ 11,891	\$ 220,187	\$ 232,078
Avg. Monthly Benefits	\$ 1,081	\$ 650	\$ 663
<u>TOTAL ACTIVE AND INACTIVE PARTICIPANTS</u>			
Number	1,733	7,554	9,287

SECTION 4.3

Yearly Comparisons - Plan B and Plan A

	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Number of active participants	6,374	6,271	6,590	7,054	6,516
Total payroll	\$ 195,934,596	\$ 199,183,293	\$ 203,493,088	\$238,697,517	\$237,197,193
Average earnings	\$ 31,394	\$ 32,536	\$ 33,388	\$ 34,770	\$ 37,579
Number of retired and disabled participants and beneficiaries	2,147	2,209	2,286	2,370	2,421
Annual pensions being paid	\$ 27,771,288	\$ 29,162,675	\$ 31,632,456	\$ 34,166,997	\$ 35,706,972
Number of deferred vested participants	376	432	384	447	350
Annual pensions payable	\$ 2,767,872	\$ 2,751,552	\$ 2,590,080	\$ 2,991,653	\$ 2,784,936
Present value of benefits	\$ 873,515,431	\$ 921,976,011	N/A	N/A	N/A
Actuarial Accrued Liability	N/A	N/A	\$ 683,683,284	\$720,839,196	\$700,702,075
Assets of trust fund (market value)	\$ 706,281,320	\$711,894,934	\$ 746,918,030	\$697,587,106	\$714,167,666
(actuarial asset value)	\$ 715,457,284	\$740,062,567	\$ 776,052,055	\$797,091,379	\$799,673,732
County contribution cost rate	6.88%*	8.00%	5.54%**	7.22%	4.09%**
County contribution requirement	\$ 14,611,646	\$ 17,201,861	\$ 12,313,480	\$ 17,836,157	\$ 9,645,830

* changed to current year payroll

** changed funding method and/or assumptions